 Solving first order differential equations

Example 1

Solve: given that when ,

Example 1 solution - indefinite integral technique

Substitute ,

Example 1 slope field



Example 2

Solve , given that when , .

Example 2 solution - indefinite integral technique

Substitute , . (or make y the subject at this stage)

Example 2 solution - definite integral technique

Example 2 slope field



Example 3

Solve given that when ,

Example 3 solution – indefinite integral technique

Substitute ,

Determine the function by substituting the values and into the positive and negative functions and testing which holds true.

 as the point (3,2) lies on this curve.

Example 3 slope field

